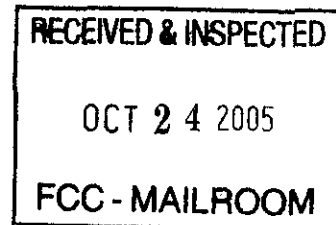


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October 12, 2005

**CERTIFIED MAIL**



Secretary, Federal Communications Commission  
445 12th Street SW  
Washington DC 20559

DOCKET FILE COPY ORIGINAL

Reference NPRM 05-235:

Pursuant to paragraph 57 of the NPRM, I am filing an original and four copies of my comments along with an electronic filing for reasons stated herein.

*Richard T Martin N6ZQ*

Richard T. Martin, N6ZQ

No. of Copies rec'd  
List ABCDE

*044*

Response to NPRM 05-235

I feel this Notice of Proposed Rule Making is unfortunately the first formal action by the Federal Communications Commission to completely deregulate the Amateur Radio Service. It is not a shot across our bow; these were fired in 1991 and 2000, so the loaded torpedo is in the water and it is well armed.

The main point seems to be settling the "Great Debate" over Morse once and for all, along with sneaking in some smaller items.

And, of course, this action is legal. In informally talking with a retired FCC lawyer, I was told that the FCC could do anything it wants with a stroke of a pen, including: "You have finally convinced us that you don't know what you want. Therefore, on date \_\_\_\_\_, the Amateur Radio Service will no longer exist and we have auctioned off your frequencies to the highest bidder. Thanks for keeping the frequencies warm for the last hundred years."

The track record of the FCC in deregulating HF bands is well known; just read Part 95.4xx.

Historically, Part 97.1 came into the Amateur Radio Service as Part 12.0 in 1951 amid great debate. But since not one word has changed in the interim, it should be just as valid today. And well over 95% of the current hams were been originally licensed under its provisions, thus accepting it as a condition of licensure. It should be adhered to.

The basis and purpose statement evoked considerable comment and argument, largely upon the ground that the amateur body should seek its own objectives and request of the Commission such minimum regulations as would accomplish these objectives. However, since the Commission is charged, under the provisions of the Communications Act, with a positive responsibility to regulate the use of radio in the public interest, it may not, as suggested, shift that responsibility to others. Accordingly, the statement of the basis and purpose of the amateur rules is intended as a prospectus of the accomplishments which the Commission expects to result from the activities of a healthy amateur radio service functioning within the limits of rules shaped toward this end. Additionally, and of equal importance, is the fact that an expressed firm basis thereby will be afforded for future international regulations affecting the Amateur Radio Service.

T. J. Slowie, Secretary

January 31, 1951

Many respondents state that commercial providers of communications modes no longer use Morse. This may well be true, but perhaps the ham radio answer lies in 97.113(a)(2)

“(a) No amateur station shall transmit:

(2) Communications for hire...”

So, the big boys can spend big bucks and send big bills to their big end user to recoup the investment with bigger bucks. Where is the “end user” in ham radio??

Many respondents say that Morse is antiquated or outdated or... Isn't it a bit incongruous that a lot of them stoop to use an even older (and therefore more antiquated) technique for getting their thoughts organized? It's called “pen(cil) and paper...”

Morse is the only mode permitted on all the amateur frequencies.

Many responders have been reduced to “plea bargaining” by saying that we should keep Morse for the Extra class. This is not the stated intent of the NPRM, which in paragraph 16, openly proposes to apply the minimum standard, perhaps oversimplified here, that the applicant prove the ensurance of proper operation by locating and using the power switch, volume control, frequency selector and transmit/receive switch. Knowing how the circuits actually perform that function is apparently immaterial.

Some say that electronics is too difficult to comprehend. It really isn't. In simple terms:

Electrons, unlike (most) hams [an oxymoron, since we use electrons], hate each other, so they quickly go from where there are a lot of them to where there aren't as many, until the numbers are equal. Here they remain until a change, such as alternating current, comes along and then they reposition accordingly. Hopefully, our 8-year-old Extras can apply and understand this.

It is the myriad of laws and circuits that apply this principle that makes electronics so interesting and useful.

Loosely interpreting paragraph 18, the weasel word “tentatively” (not found in discussing the General) in sentence four gives a microglimmer of hope that Element 1 just might be retained for the Extra license. This way, the Commission could say, “Well, we tried to eliminate it, but enough good and valid responses came in to warrant keeping it.”

This is not the real issue; that issue is simply to retain Morse as it is now in the regulations, or dump it completely. There is no middle ground.

My position is the former- keep Morse for both the General and Extra. If it is kept for the Extra alone, then someone someday will mount a legal challenge that some j was not appropriately and timely dotted in the right color, so the process to eliminate it will have to start all over.

Perhaps those truly unable to master the Morse code should be able to get a waiver certified by a psychiatrist or psychologist skilled in the analysis of this area. If it is solely a physical issue, then a medical doctor could certify. It would be similar to the procedure previously used for the 13 and 20 WPM waivers before 2000.

In Appendix A, the proposed revision to 97.507(a)(2) would now include a Technician Plus as being eligible to administer Element 2. I cannot find this in any of the RM's or in the text of 05-235. It certainly goes against tradition, from my earliest reference, the 1939 License Manual, where Sect. 151.18 requires a Class A or B holder to be in charge of conducting the mail exam and then returning the papers to the FCC for processing. If the amateur was not old enough, then a person "of legal age" conducted the written, for a maximum of two people (as contrasted to three when the Volunteer Examiner system was established).

Since the FCC had examined the Class A or B holders, it followed that they were of higher class than the applicant. I believe this method continued through the Novice, Technician and Conditional exams until this was eliminated with the advent to the Volunteer Examiner system. As it now stands, most tests are administered by someone of higher class, with the obvious exception of Extras conducting Extra exams.

I fully concur with the Commission on not having any automatic upgrades.

I had a posting on the SPAR website that I wanted to use as a link to expand this response. However, that site was hacked and I can no longer do that. Therefore, per the instructions of the FCC Gettysburg office, I am dual filing, by this electronic means and also sending hard copies to the FCC as shown in paragraph 56. If you would like to see the attachment, please email me at [n6zq@arrl.net](mailto:n6zq@arrl.net) and I'll be very glad to email you one.

I find it very hard to understand what is being conveyed in

#### V. PROCEDURAL MATTERS (paragraphs 48 and 49)

Specifically how can 97.3(a)(4) "**...without pecuniary interest.**" be interpreted in any way with any business enterprise? Being a pilot for many years, I called my local FAA Flight Standard District Office, which supervises aviation personnel testing and certification, and asked how this matter was handled there. The first response was "Huh??" A discussion followed and I found out that they do not have such a concept there. Then why does the FCC, especially when the Amateur Radio Service is not a business?

Please clear up exactly when it applies to “...individuals are taking an examination...”

Let's use this scenario:

A VE session is to be given at a Red Cross building. The VE team is in place and ready before the start time. When does the provision asked immediately above take place?

The applicant

Enters the property

Enters the building

Enters the test area

Fills out the paperwork

Gets the test and answer sheet

Completes the test and answer sheet

Turns in test and answer sheet

Waits for grading and CSCE if appropriate

Leaves the test area

Leaves the building

Leaves the property

I can find nothing in my ARRL VE Manual remotely regarding this issue. My team leader is also at a loss.

If this exercise is simply reduced to a popularity contest, then here are my brief comments:

KEEP Morse as it is.

DO NOT allow automatic upgrades

DO NOT allow Technician Plusses to become Volunteer Examiners (97.504(a)(2))

Now you can go on to doing something else or continue to read my detailed analysis.

May I refer you to the excellent response by Steve Tolley, KL7FZ, even if you don't knit?

Thank you for reading my thoughts on this most serious issue.

*Richard T Martin*

Richard T. Martin, N6ZQ

11218 NE 12<sup>th</sup> Avenue

Vancouver WA 98685-4008

My specific comments on this NPRM follow:

Pg Para

I INTRODUCTION

- 2 1 WRC 03 Final Acts allow each administration the option for code/no code or a partial combination with respect to the 1991 "Codeless Tech".  
Morse is now set at 5 WPM for good or bad.  
A new first level license class is needed; see my mail-in attachment.
- 3 2 I feel the dismissed petitions (or parts of them) will resurface.
- 3 3 The FCC wants to eliminate all code requirements. Is this a popularity contest with a high number of Technicians who would directly benefit or is it based on the intellect of the responder as evidenced by many form letters and much poor grammar?  
Note that subparagraph (2) uses "may", which is a permissive term.  
Subparagraph (3) portends a recodification by emission. There is at least one RM ready to be submitted, if it hasn't been already.

III BACKGROUND

- 3 4 As usual, FCC pays lip service to Part 97.1 which has been unchanged since April 1951.  
97.3(a)(4) states "...without pecuniary interest.", yet paragraphs 49 and 50 refer to SBA etc., which seem to be diametrically opposed.
- 4 5 A parenthetical note: my late wife was a "No Code Tech".
- 6 Sentence 3- is this statement an FCC indication that Morse is not "modern"?  
Sentence 5- but it was left to the individual administrations and was not mandated.
- 7 Is this somehow tied to the No Code International statement that they would bring congressional pressure to bear if no action was taken by July 22?

#### IV DISCUSSION

##### A Licensing Requirements

Pg Para

- 5 8 "...advancing operational **and** technical skills." is mentioned without indicating the parameters for accomplishing these goals. What does the FCC really have in mind?
- 6 9 Reference footnote 30, RM-10807 at 3.3.2 (second paragraph) calls for a maximum of 12% that could be added to the written element score. It did NOT eliminate Morse entirely.
- Sentence 3- Ham Radio, per se, is a "recreational activity" comprised of many modes of operation, ALL by the operator's own choice.
- 6 10 How does the NCVEC define "special equipment"?
- 7 11 See the above reference to RM-10807.
- 7, 8 12 I would prefer to keep the Morse requirements as they now stand, thru although 5 WPM is slow for communication purposes. Years ago, 12 13 WPM was the defacto world standard for HF privileges.
- 9 14 I agree with Mr. Napurano's sentiments, even though he has been overruled by the FCC.
- 9 15 Apparently, Article 25.6 is very non-definitive in its wording. It gives nothing in the way of worldwide standards, therefore the FCC can do pretty much as it wishes, public opinion notwithstanding.
- 9 16 Sentence 1- How and where is "proper operation" specifically defined by the FCC and how will they enforce this definition? How often are enforcement measures taken?

Pg	Para													
10	17	<p>Sentence 3- how does the response of some 6200 truly represent the over 722,657 licensed operators as listed October 10, 2005 on <a href="http://www.hamdata.com">www.hamdata.com</a>? This is approximately 0.8%. For your reference:</p> <table border="0"> <tr> <td>Novice</td> <td>32,995</td> </tr> <tr> <td>Tech</td> <td>297,310</td> </tr> <tr> <td>Tech Plus</td> <td>53,621</td> </tr> <tr> <td>General</td> <td>146,838</td> </tr> <tr> <td>Advanced</td> <td>82,060</td> </tr> <tr> <td>Extra</td> <td>109,833</td> </tr> </table> <p>Total 722,657 of which 425,347 have passed Morse This is 58.9%</p>	Novice	32,995	Tech	297,310	Tech Plus	53,621	General	146,838	Advanced	82,060	Extra	109,833
Novice	32,995													
Tech	297,310													
Tech Plus	53,621													
General	146,838													
Advanced	82,060													
Extra	109,833													
10	18	<p>Sentence 2- ALL stations should be run in a “safe and effective operation” no matter what the mode and class license the control operator holds.</p> <p>Sentence 4- The word “tentatively” gives the FCC leeway, compromise and wiggle room Thus, they might just keep Morse for the Extra (until the next round of inevitable RM’s) and be able to keep their white good guy hats (Stetsons??), saying “Well, we tried to hold them at the pass...”</p>												
11	19	<p>Sentence 4- The wording “actually use” applies equally to any mode chosen by the operator. Looking at the current Question Pools:</p> <p>Element 2 covers AM/SSB, FM, and digital</p> <p>Element 3 covers AM/SSB FM, PM and digital</p> <p>Element 4 covers CW, AM/SSB, FM, PM, television, digital (AMTOR, ASCII, packet, fax, spread spectrum)</p> <p>Would the FCC care to speculate on how many new Extras use CW versus spread spectrum, yet spread spectrum is in the pool. Sorry, I forgot: it’s the NCVEC that now defines the pool content. But be a sport and make a guess.</p>												



Pg Para

11 20 Sentence 2- It is a given that a large percent of ARES and RACES operators are Technicians, in concert with their relative number to the total. Thus, VHF voice is the emission of choice for local communications. In some areas, repeaters work well. However, they do not work as well in lowlands, especially after weather disasters. HF is needed for longer distances, with a General or higher control operator. I would especially refer you to Charles Young's (AG7YO) response to this NPRM.

Sentence 3 alludes to 97.1(a), stating that there is no requirement to be involved in emergency communications. Does this mean, at least by implication, that there is therefore no requirement to follow at least the intent of this section and therefore all of Part 97?

This section came into law on 1951, after very heated debate, as seen in my research of QST CD's and other publications of that time. I have not been able to find a clear cut discussion of how the FCC defines the terminology used therein. If it is no longer valid, then let's throw it out and go from a defined service into an unregulated hobby, as many seem to want.

11 21 Sentence 1- It has been traditional that writtens cover greater technical depth.

Sentence 5- Amateur Extra should be Advanced

I have no comment on Paragraphs 22 and 23 and generally support 24.

14 25 HOORAY!! I commend the FCC for holding to 97.501 and not "Grandparenting" by doing automatic upgrades. The 2000 change in Morse speed down to 5 WPM validly permitted those who took Element 3 before it was split to attain the General license. This NPRM is a whole different ball game.  
Does the FCC have any data on upgrades due to the decreased speed?

Pg	Para	
15	26	Sentences 2 and 3- The Tech Plus has passed elements 1 and 2, so the applicant only needs element 3 to get the General under the present regulations, so what was the intent, other than verifying Element 1?
15	27	Sentence 1, 2, 3- I generally agree with this concept. See the attachment to my mailed in comments. I generally agree with the rest of this paragraph.
16	28	Sentence 1- I am against any automatic upgrading. Sentence 2- I fail to see the idea of "orphaned". A lot of Advanceds are still very active, including one of the authors. Sentence 3- I oppose this concept.
16	29	I feel the entry licensees do not have as comprehensive an idea of the many aspects of amateur radio and that the extinct Novice provided more arenas than the Codeless Tech. I also feel the Morse requirements should remain intact.
17	30	Sentence 2- I generally concur, but how many will upgrade, even with the question pool available?
17	31	I fully concur.
18	32	I concur with the concept. However, with respect to the longevity of the Advanced class, consider this scenario: Joe Ham got the last Class A license at age 18 in 1951. If he lives until the average age of 74, he is 72 and will die in 2007. Jane Amateur got the next to last one and will pass in 2013. So, this class will be around for a while (thankfully). Now try this again with the last Advanced licensee...
8	33	Where can I get copies of the FCC/NCVEC agreements? They aren't (easily) found at <a href="http://www.ncvec.org">www.ncvec.org</a> .
19	34	Precisely, what skill levels, other than abject memorization, does the FCC
thru		require for testing and to show compliance with "perform properly"
37		(97.503(b))?

Pg	Para	
20	38	Why shouldn't the FCC maintain oversight on the NCVEC, or is this just another facet of the overall deregulation plan?
21	39	I concur. The testing should be of sufficient level to assure that each licensee has a fundamental understanding of the principles and operation of general communications systems, to understand the concept of the mode used.
	40	Educationally, the purpose of testing is to assure that the applicant has acquired sufficient knowledge of the subject matter at that point. I know of no institution of post high school level that permits instant retesting upon failure.
22	40	As a retired college educator, I found the purpose of testing is to assure the students have an adequate knowledge of the material at that point. I know of no educational institution that allows instant retesting. Prior to the VE system, FCC office retesting was 60 days (Sect. 152.01, 1939 License Manual) and then went to 30 days (Sect. 12.49, 1951 License Manual). Commercial retesting was 60 days. So, what is really accomplished by instant retesting with respect to demonstrated usable knowledge that the writtens are supposed to provide?
22	41	There never has been a method to assure that the same test will not be given at a later VE session. I feel there should be.
	42	Sentence 3- Isn't it the sole responsibility of the applicant to be prepared, no matter what test is being taken?
22	43	With regard to VEC's decertifying VE's, what is the record by
	thru	individual VEC's? Are some more prone to irregularities?
	46	How many decertifications have actually occurred?

## V. CONCLUSION

23	47	Most emphatically, I do not concur, for reasons listed above and further detailed in my mail in comments.
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VI. PROCEDURAL MATTERS

- 24 48 I cannot comprehend why or how an Amateur Radio Service applicant  
thru can be described as a business of any size. The Federal Aviation has no  
49 similar procedure for testing applicants for certification. Being a  
pilot and mechanic, I called my local Flight District Standards Office and  
explained the paragraphs. The first comment from that responder was  
“HUH??” Detailed discussion showed that they do not and never have  
applied the small business concept to their testing of applicants. So, why  
does the FCC?
- 24 50 If Morse is eliminated, the market for training materials will become slim  
indeed.
- 25 56 In accordance with this paragraph and discussion with the Gettysburg  
office, I will also file paper copies including a revision to the licensing  
scheme, since it is no longer available online at [www.spar-hams.org](http://www.spar-hams.org).

The following item was written by me last year and I wish to make it part of my submission on this NPRM for the reason shown above.

Since it was first published, I have found out that some administrations do use some of the ideas contained in it.

Thank you.

Ham Radio is not broke; but I think it is highly stressed, approaching the point of fracture. However, it will survive, no matter what form it ultimately takes.

I personally have had a problem understanding exactly what the Federal Communications Commission expects from us regarding Part 97.1. I have emailed the FCC and the ARRL for this information but have not had any reply. I am particularly dismayed at the current trend of thought in ham radio which seems to be learn the test, pass it and forget it. This is abetted by the availability of question pools with all the answers available. In fact, the American Radio Relay League recently published articles on their web site where a licensing "class" merely read and retained the Technician question pool long enough to pass the test at the end of the day.

On December 22, 1999, the FCC, in their innate wisdom, issued Report and Order WT 98-143, which contained arguably the most far reaching changes in Part 97 and its predecessors since the 1951 addition of the Novice, Technician and Extra licenses and renaming the old Class A, B and C licenses.

I would like to bring out my thoughts and cause constructive discussion of the situation, but be aware that I can also play the Devil's Advocate and bring up points that I do not support.

Notwithstanding all other facets contained within that R & O, the FCC firmly reiterated on page 19, among others, that amateur radio has been and will remain a technically based service. In my opinion, that states that there should be no decrease in the technical knowledge on any licensed operator.

To many hams, the foremost action was the reduction of code speed to 5 words per minute across the board. The FCC used the justification that code, in and of itself, was not a dependable selector of good operators. This may be so, but how does it fly in the face of our tradition? Previously, the worldwide defacto speed was 12 WPM for serious HF work. And since one of the outcomes of WARC-2004 was a virtual elimination of Morse, there have been some seventeen petitions awaiting further FCC action.

Stiff competition to licensing (and pride) comes from cell phones and the Internet, apparently taking a toll on potential newcomers. How these entities will adequately function in an actual emergency is the subject of much debate.

The Advanced license is cast in concrete as having passed 13 wpm and perhaps taken a harder written exam. Many current holders are justifiably proud of this and do not want an automatic upgrade to Extra as some petitions have proposed.

I have been working on the following thoughts for many years. This having been said, would you kindly read them and post your considered opinion. I also propose a new license methodology, which is incomplete, it being still a work in progress. Thank you.

## HAM RADIO CHANGES

I feel the time has come for us, as Amateur Radio Operators licensed by the Federal Communications Commission, to decide among ourselves if we want to continue to abide by the provisions of Part 97.1, especially with regard to the technical requirements. I feel that most new licensees most want to be operators and have little desire to learn the technical areas.

This paragraph came into existence in 1951 as Part 12.0 and not one word has been changed in all that time, arguably the only paragraph that has survived intact. It therefore follows that probably well over 95% of the currently licensed operators have entered the Amateur Radio Service under this provision and therefore accepted it as a requirement of licensure. For details, see the Federal Register, February 9, 1951 (16 Fed. Reg. 1237).

Is it valid and needed today? It could be argued that amateur radio functioned well (perhaps even better) before its introduction.

Lets assume the following is in the FCC's rank order of importance:

97.1(a) RACES is covered in 97.401 through .407. This is the only subsection with similarly dedicated rules.

(b), (c) and (d) deal with operations and technical aspects of this service

(e) deals with DX and is not part of this discussion.

However, bear in mind that (a) and (e) could not exist without technology.

Given that there is "safety with numbers" as suggested by some organizations, I must ask if the emphasis contained therein is on quantity or quality. I feel it must be the latter, especially in light of the words "trained" and "technical experts". However, the FCC does not clearly indicate their standards here; perhaps they should. I have asked, but I have no reply as yet. If we return to real knowledge and quality in our licensees, then surely the numbers will follow, with true pride in their accomplishment.

About two years ago, I VE'd at a local high school where the teacher (General class) made the Technician test an option for his class. I asked him why they were really taking the test. "It will look good on their resume" was his answer. I've never seen one of them at our club meeting (with free membership) or heard one on the air. Thus, we have number inflation. This is why I propose a five year term for the first issuance of a license and any upgrade.

Parenthetically, I must add that no Part 95 license has similar ideas in its Basis and Purpose; thus we stand alone with reference to the FCC's viewpoint. And the word "hobby" does not appear in Part 97: read your copy (it is up to date, isn't it?) or do a word search on the net.

It appears to me that subparagraphs c and d are inclusive (not exclusive) with respect to operators and technicians, given the words "both" and "and" in c, along with "and" in d. I realize that there are those out there who will vehemently dispute this.

Amateur radio has always had technology as its backbone: at the onset of wireless, it was the backbone. But it appears to me that amateur radio in general has long been giving short shrift to the technical aspects as stated in subparagraphs b, c and d, even though the Federal Communications Commission has continued the emphasis on technology. We VE's are now regularly burping out amateurs of the highest class (Extra) who cannot even do (let alone understand) simple Ohm's Law problems on their own. The test questions were only (memorials) examples and bore little resemblance to what the licensee found in the field. "Last week I couldn't spell Extruh, now I am one."

Is the FCC emphasis on operational or technical qualifications? Or are they of equal emphasis? The oft quoted (and misquoted) 98-143 states emphatically on page 19 (with my emphasis):

We are persuaded that because the amateur service is **fundamentally a technical service**, ...

At this point, let me give you my background, so that you can put your biases into mine:  
Novice and Technician, 1955    General 1956    Advanced 1976    Extra 1977  
First Phone 1958

Twenty years technical experience in the field and then twenty years full-time teaching electronics in community college (nope, I don't have a BSEE or a JD)

Flying: Private 1965    Commercial 1967    Instrument 1972    A&P 1973  
(why I included the FAA info will be obvious later, although those with FAA certificates can probably guess)

And a caveat or two: I love to play the Devil's Advocate, just to get you thinking. And some ideas (all of which are excellent, of course) may be mutually exclusive.

Given today's world situation, it is obvious that the country needs more trained and competent licensed amateurs. As some commenters on the recent spate of Rule Makings have stated, operators, per se, need no knowledge at all beyond the (hopefully correct) operation of front panel controls. How can this comport with 97.1?

This obliquely leads to the subject of age, although there is no limitation imposed by Part 97. Given that Part 97 is written at a 12<sup>th</sup> grade level with almost 200,000 words, then how is it possible for a middle or elementary school student to sufficiently grasp the meaning and privileges of their license certificate? It can boggle the mind of those with advanced degrees. Note the well publicized number of Extras under 10 years old. As an aside, the Mexican regulations require a primary school graduation (i. e., age 12); otherwise an adult operator of equal or higher class must assume full responsibility for that young licensee's actions. Many states have graduated driver's privilege schemes based on age (and record in some cases). How is it in done your state?

Further, Section 303(l)(1) of the Communications Act states:

(l)

(1)

Have authority to prescribe the qualifications of station operators, to classify them according to the duties to be performed, to fix the forms of such licenses, and to issue them to persons who are found to be qualified by the Commission and who otherwise are **legally eligible for employment** in the United States, except that such requirement relating to eligibility for employment in the United States shall not apply in the case of licenses issued by the Commission to... (A and B refer only to pilots)  
(my emphasis above)

Does this allude to age? By the way, what is the minimum employment age in your state?

The FAA age minimum is 14 for a glider student (simplest aircraft).

FAA method: (not just 26 of 35 multiple choice questions)

Get experience under controlled guidance

Be signed off to take (and pass) written

Pass written

Be signed off to take (and pass) oral and practical

Take and pass oral and then practical (usually at the same session)

(I had to provide the plane for flying certificates and tools for the mechanic's.)

Now I can hear the roars: "How can you possibly equate those dangerous small planes that always get in the way of airliners with my beloved, safe Amateur Radio?" A properly flown aircraft is just as safe as your properly run station.

Well, I checked with one of my mortician cousins and she said that if you are unsafe either way, then to her, you are just as dead. So let's put this matter to rest.

Current testing regulations state:

.501 Each applicant for a new or upgraded license must pass an appropriate exam

.503(b) The written element must prove the operational AND technical qualifications required for the class of license. (Do some of the recent RM's consider these?)

.505(d) The code test must be a minimum of five minutes with no upper limit stated

The old Class B to Class A upgrade required 1 year to get additional phone privileges on 75 and 20.

Then General to Extra required 2 years under the 1951 rules (a new Advanced was not available: sound familiar??) So, there is historical precedence.

Additionally, RM-10807 at 4.3.1 suggested one year to go from Technician to General and two more to go to Extra.



And we are well into what I call the "Sesame Street Syndrome", where you are not required to be able to spend a lot of time learning or solving problems. Serious endeavors just doesn't work that way, folks.

WT 98-143 item 40 addressed written contents as follows:

#### **Written Examinations**

40. *Background.* Currently, a written examination is prepared and administered to each applicant for each class of amateur radio operator license. The purpose of the written examination is to allow the applicant to demonstrate that he or she possesses the operational and technical qualifications required to perform properly the duties of an amateur service operator licensee, *i.e.*, that he or she is qualified to be an amateur service licensee. The written examination questions are drawn from a uniform national database of multiple-choice questions and answers approved by the NCVECs using an algorithm that is specified in the Rules. This database is periodically updated to provide access to current examination questions. The database is arranged into five examination elements, each of which contains questions applicable to the privileges of one of the six classes of amateur radio operator licenses. To qualify for an amateur radio operator license, an applicant must pass or receive credit for one or more written examination elements and, if required, a telegraphy examination element. The components of the written examinations were carried over into the VE system from the examination used previously when the Commission prepared and administered amateur radio operator examinations.

There are myriad discussions about the appropriate number and content of questions for each written element. Some assert that since the original number of questions was 10, taken in front of the FRC examiner; therefore, if it was good enough for Grandpappy, it oughta be good enough today. How can the depth of today's technology thus be adequately covered as required by .503(b)?

Suggestions and ideas:

Question pools, if published, would be based on a syllabus (determined by the FCC?) and have no published answers. This would eliminate a great number of questions based on the same idea or math process and thus would remove a major burden from the NCVEC Question Pool Committee. They have been very vocal about the size of the pools.

Assuming that Morse is retained in some fashion, code tests should be ten minutes long, including common abbreviations and Q signals, to more accurately resemble a normal QSO. This would greatly ease the construction by allowing double the time for including all required characters. No, I am not advocating a Punxutawney to Albuquerque QSO. More importantly, the applicant would therefore have double the time to succeed. The VE team would locally generate the test (certified for correctness by 3 members of the VE team). At least one out of every ten applicants would be required to pass a sending test.

Grading possibilities:

Solid copy for \_\_\_\_ minutes

No more than \_\_\_\_ errors in \_\_\_\_ contiguous minutes

Written tests would be:

Part of a total sealed subelement package of the element, to assure adequate coverage with individual subelements further sequentially unsealed by a VE and given to the applicant one subelement at a time. Failure of a subelement would terminate the test and there would be no partial CSCE's given. The sealed portions would be returned to the file for later use. There would be no retakes on that day. See my suggestion on "Permit to Take..." below, especially if there is a "no instant retake" provision written, as some have suggested, into Part 97.

\_\_\_\_% Rules and Regulations: The VE team would locally generate questions (certified for correctness by 3 members of the VE team) appropriate for the element and the applicant would be given a current copy of Part 97. The applicant would then research the question (with reference to the paragraph) and answer within a given time limit. (Note: some maritime tests now require a minimum law score of 90%.)

\_\_\_\_% RF Exposure: The VE team would locally generate questions (certified for correctness by 3 members of the VE team) appropriate for the element and the applicant would be given a current copy of OET 65 and Appendix B. The applicant would then research and compute the answers within a given time limit. It is interesting to note that an up-to-date physical (or electronic) copy of Part 97 or OET 65 are not required in the shack. Perhaps they should be.

NB. Both Part 97 and OET 65 are available on the Internet.

\_\_\_\_% Math The VE team would locally generate questions (certified for correctness by 3 members of the VE team) appropriate for the element and the applicant would be given a copy of formulas (as done in the ARRL manuals) for that element. There would be no data in calculator memory and the answer would be accurate to 2 decimal points.

By simply moving the authority from the NCVEC to the local VE team to use the same standard textual and mathematical references stated above, the much complained about load would be greatly reduced and memorization would be minimized.

\_\_\_\_% Multiple choice

\_\_\_\_% Fillin (with keyword(s) supplied by the VEC). John Johnston, W3BE, has stated in his World Radio column that examination questions do not have to be multiple choice. And the Radio Amateurs of Canada's proposal to Industry Canada (their FCC) regarding Morse discusses the weakness of multiple choice tests.

A CSCE would be issued at this point.

The applicant would complete the testing (probably at another session) as follows:

    % Oral (with key ideas supplied by the VEC, using a publication similar to the FAA Practical Test Standards)

Given a block diagram, discuss the general operation of a circuit  
Discuss the advantages and disadvantages of an emission type  
This would expand on areas covered in the syllabus

    % Practical (with key ideas supplied by the VEC, using a publication similar to the FAA Practical Test Standards)

Given an Operating Manual, set up a transceiver (or equivalent) to specified operating conditions and make a contact with it.  
Given the materials and test equipment, assemble and test an antenna  
Correctly assemble an RF connector on coax  
Calculate the voltages and currents in a series parallel circuit using standard value resistors, then construct the circuit with resistors selected from an assortment of components and verify that the calculations are correct.

Every reader will have different ideas on and can add to the oral and practical lists. Bob Shrader, W6BNB, published an excellent book in 1982 called "Amateur Radio Theory and Practice". If you can find one, it would be a great basis on which to begin.

But where would these test materials come from? Donations of equipment and parts from hams. Loans of club equipment. Financial loans or donations from clubs to their VE teams. Oh, yeah, almost forgot—the \$14 test fee until the pool is self-sustaining.

Some might say that their local VE's are not capable of administering the oral and practical sections. If the VE is an Extra, do I perceive something wrong here?

There would be a (ten) day waiting period before retesting after failure.

I realize that accommodations will have to be made for those with a disability. I'm currently working with a non-sighted ham for his Extra.

Why not establish an entirely new licensing framework with new descriptors, a little similar to the Canadian concept. Since the FCC wants a maximum of THREE classes, how about (although it might run afoul of ITU M-1544, which I haven't been able to get on the net):

First level would be basically an operator's license for all bands and modes including Morse (if still legally required), with minimal technical emphasis (only enough to see the basic operational needs; i. e., Ohm's and Watts Laws, resonance, impedance, Thevenin's Maximum Power Theorem etc). Questions would cover all the most popular operating modes and could have a few on any upcoming modes. There would be restrictions on frequencies, say the middle 50% on HF. All frequencies above 50 MHz would be available, ala the present Technician license. RF power would be limited to 100 W (today's average HF transceiver, which usually includes an RF Output control, has instructions in the Operator's Manual). All equipment would have to be type certificated. The license (and first upgrade to the next level) would be for five years, and in this case, non-renewable. Call signs would be unique to the class. No vanity calls would be issued.

Second level would require (twelve) months at the first level to acquire practical knowledge before taking the written. This has historical precedent. The testing would emphasize the technical areas at approximately the Associate of Science level (13 and 14<sup>th</sup> grade) (generally considered to be the minimum knowledge for employment and would permit the holder to build and install home built rigs. The holder would have all amateur privileges, except those reserved for the third level. Since Volunteer Examiners must be of a higher class, except for Amateur Extra, the third class would be the only class eligible to be a V E.

By this method, both the operational and technical requirements of 97.1 would be fulfilled upon obtaining the second level. The new operator would have five years to upgrade, which is a very reasonable time. Perhaps a (three) year wait before eligibility to start all over would be appropriate.

The third level would be for those who instruct in amateur radio. At the onset, they should have a current, active teaching credential at the high school level or above and hold an Amateur Extra license. They would, either in person or by electronic means, determine the knowledge of applicants and certify them as ready to take and pass that level of testing. As time goes on, methodologies for licensing new third levels would be implemented.

I leave it to those many who are more intelligent than I to integrate the current licensing structure. But consider this- all current licenses are for ten years, which would help fulfill the waiting time issue. Then current licensees would have to take both tests before submitting CSCEs when renewing. Early changes would be encouraged. Given the abundance of VE sessions, this should not be a problem in most cases. Current privileges would remain as they are now until renewing.

Incidentally, the FCC has NINE commercial licenses (and 6 endorsements). See Part 13.7 for details.

In order to reduce the chances of illegally retaking a test before the time limit is up, the FCC would issue a "Permit to Take Amateur Radio Exams". This would be passport sized and would contain:

- A photograph ID, with one more required at the VE session

- Usual address info

- The FRN needed on applications would be issued with the Permit

- There would be room for the VE team to show the date, elements taken (with pass/fail and test information to prevent retake of similar questions) and the location

- Falsification would be a federal offense

- The cost would be about \$25 (to defray expenses), which is about 1/5<sup>th</sup> the cost of the cheapest "shack-on-a-belt", or similar to the cost of a good license manual. In all probability, the financial significance would be lost in the first year of serious licensing.

It would be given to the VE team at the beginning of the session and returned to the applicant at the end.

R&R Part 13 covers commercial licensing and element three is the technical part. It covers areas well outside amateur operations, as well as basic electronics. Perhaps a special test could be devised so that a holder of a commercial license that includes this element could get partial technical credit for it. The same could be done for the other direction. After all, we don't own Ohm's (and all those other guys) laws. Or, if you passed it once, why can't you do it again?

And further ideas are available at Joe Mack's (NA3T) site:

[www.wm7d.net/az\\_proj/az\\_html/arri\\_restructuring.html](http://www.wm7d.net/az_proj/az_html/arri_restructuring.html)

A final question-- Given the current number of amateur radio licensees (733,624 per hamdata), are we being adequately served by the FCC? If not, how do we get the required level of service? As taxpayers, does the FCC serve us or we them?

So, here it is, warts and all. I really can't wordsmith it any further.

Happy thinking and please share your thoughts on SPAR!!

